—*Standard Valves*—

4205-E AND M.4205-E VALVES

TRIODE.

M.4205-E valve is similar to 4205-E but has the grid and anode specially treated to reduce secondary emission.

SPECIFICATION.

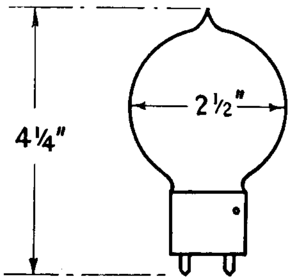
Cathode.

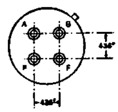
Oxide coated filament.

Constant current type.

Base.

Medium 4-pin bayonet thrust, with offset pin.





Dimensions.

Overall length	4¼" (10·8 cms.)
Bulb diameter	2½" (6·4 cms.)
Net weight	0·14 lbs. (65 gms.)

Constants.

Filament current	1·6 amps.
Nominal filament voltage	4·5 volts
*Impedance	3,500 ohms
*Amplification factor	7
*Mutual conductance	2 mA. per volt
Anode–grid capacity	4·8 $\mu\mu$F.
Anode–filament capacity	3·3 $\mu\mu$F.
Grid–filament capacity	5·2 $\mu\mu$F.

* *at anode current of* 30 *mA.*

LIMITING CONDITIONS FOR SAFE OPERATION.

Maximum direct anode voltage	400 volts
Maximum direct anode current	50 mA.
Maximum anode dissipation	15 watts
Maximum direct grid current	10 mA.
Maximum frequency for above ratings	15 Mc.
Maximum anode voltage for frequency of 30 Mc.	300 volts

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TYPICAL OPERATING CONDITIONS.

Anode voltage volts	Grid bias volts	Anode current mA.	Amplification factor	Anode resistance ohms	Load resistance ohms	Power output mW.	Second Harmonic db
200	—6	22·5	7·4	4,000	4,000	60	35
					8,000	55	40
250	—22	9	6·9	6,000	6,000	500	18
					12,000	450	22
					18,000	380	26
250	—15	19	7·2	4,350	4,350	310	26
					8,700	280	30
250	—10	27·5	7·4	3,800	3,800	180	33
					7,600	160	38
250	—5	37·5	7·5	3,500	3,500	50	40
					7,000	45	43
300	—30	8	6·7	6,700	6,700	800	15
					13,400	720	20
					19,100	600	24
300	—24	15·5	7·1	4,800	4,800	750	20
					9,600	670	25
300	—18	25	7·3	4,000	4,000	540	27
					8,000	480	31
350	—22·5	29	7·3	3,800	3,800	875	26
					7,600	800	30
375	—30	22	7·1	4,300	4,300	1,300	20
					8,600	1,200	26
*300	—10	41	7·4	3,350	3,350	200	37
					6,700	180	41
*350	—20	34	7·3	3,600	3,600	750	28
					7,200	675	32
*375	—24	32	7·3	3,650	3,650	1,000	26
					7,300	900	30
*400	—29	30	7·2	3,800	3,800	1,400	23
					7,600	1,300	28

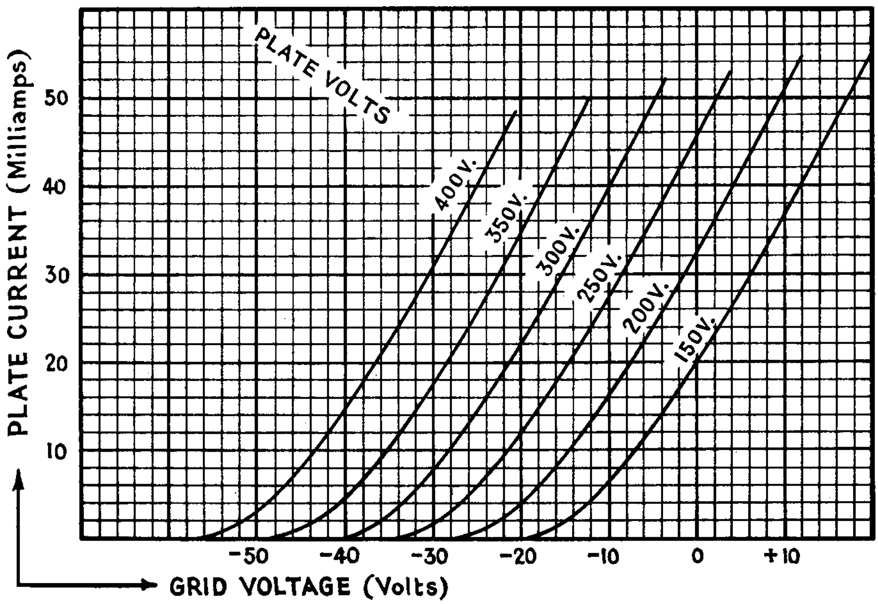
* Maximum operating conditions.

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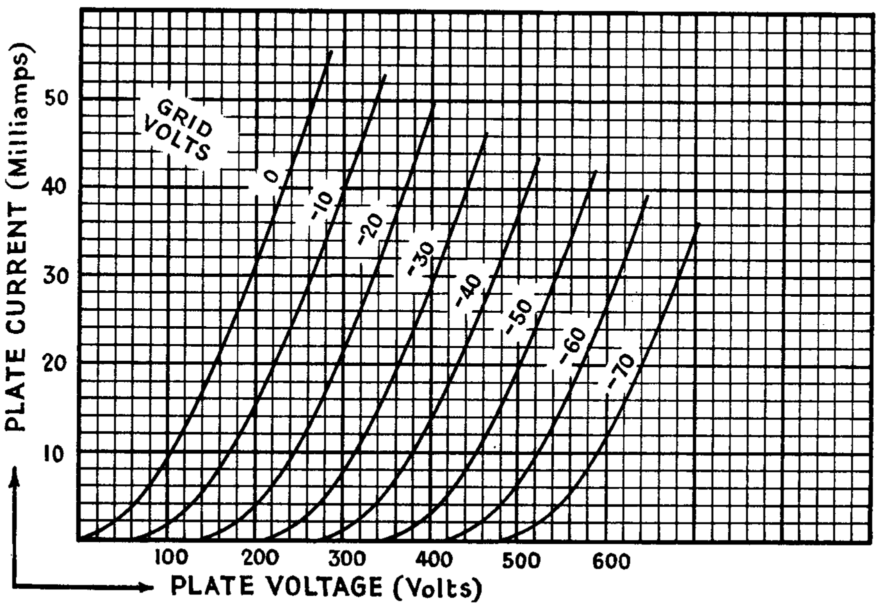
RADIO FREQUENCY OPERATION.

	Class B Telephony		Class C Telephony		Class C Telegraphy	
	Modulated Carrier applied to grid		Subject to anode modulation		Unmodulated	
Direct anode voltage	350	400	300	350	350	400 volts
Direct anode current	28	28	35	35	45	45 mA.
Grid bias	—48	—56	—120	—144	—96	—112 volts
Driving voltage—						
Carrier	69	73	—	—	—	— peak volts
A–F peak	138	146	—	—	—	— volts
Driving voltage	—	—	205	229	186	202 peak volts
Power output—						
Carrier	2·5	3·0	—	—	—	— watts
A–F peak	10	12	—	—	—	— watts
Power output	—	—	6·0	7·1	8·3	10·0 watts
Effective load—						
Resistance	3,100	3,700	4,000	5,000	3,750	4,500 ohms
Peak driving—						
Power–peak	1	1	—	—	—	— watts
Driving power	—	—	1·3	1·7	1·3	1·5 watts

These curves are taken with direct filament heating, grid and anode voltages being referred to negative end of filament.



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